

May 9, 2005

Mr. Gregg R. Overbeck  
Senior Vice President, Nuclear  
Arizona Public Service Company  
P. O. Box 52034  
Phoenix, AZ 85072-2034

SUBJECT: PALO VERDE NUCLEAR GENERATING STATION (PALO VERDE),  
UNITS 1, 2, AND 3 - REQUEST TO USE A SUBSEQUENT EDITION AND  
ADDENDA TO AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)  
BOILER AND PRESSURE VESSEL CODE (CODE) SECTION XI FOR  
REPAIR/REPLACEMENT ACTIVITIES (TAC NOS. MC6851, MC6852, AND  
MC6853)

Dear Mr. Overbeck:

By letter dated April 29, 2005, Arizona Public Service Company submitted a request to use the 1998 Edition, no Addenda to ASME Code Section XI, for repair/replacement activities. The current inservice inspection (ISI) Code of record for Palo Verde, Units 1, 2, and 3, is the 1992 Edition with the 1992 Addenda. The authorization of the subsequent edition and addenda of the ASME Code will allow the use of eddy current examinations as an acceptable surface examination technique.

Paragraph 50.55a(g)(4)(iv) of Title 10 of the *Code of Federal Regulations* (10 CFR) states that inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda of the ASME Code provided that they are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed in 10 CFR 50.55a(b) and subject to Commission approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met.

Based on the enclosed Safety Evaluation, the NRC staff concludes that the proposed request is acceptable and authorizes the use of the 1998 Edition, no Addenda to ASME Code Section XI

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for repair/replacement activities for the remainder of the current 10-year ISI intervals for Palo Verde, Units 1, 2, and 3. All other requirements of the ASME Code, Section III and XI for which relief has not been specifically requested and approved remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

Sincerely,

***/RA/***

Robert A. Gramm, Chief, Section 2  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-528, STN-50-529,  
and STN 50-530

Enclosure: Safety Evaluation

cc w/encl: See next page

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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

REQUEST TO USE A SUBSEQUENT EDITION AND ADDENDA

TO AMERICAN SOCIETY FOR MECHANICAL ENGINEERS (ASME)

BOILER AND PRESSURE VESSEL CODE (CODE) SECTION XI FOR

REPAIR/REPLACEMENT ACTIVITIES

ARIZONA PUBLIC SERVICE COMPANY, ET AL.

PALO VERDE NUCLEAR GENERATING STATION (PALO VERDE), UNITS 1, 2, AND 3

DOCKET NOS. STN 50-528, STN 50-529, AND STN 50-530

1.0 INTRODUCTION

By letter dated April 29, 2005, Arizona Public Service Company (the licensee) submitted a request to use the 1998 Edition, no Addenda to ASME Code Section XI for repair/replacement activities. The current inservice inspection (ISI) Code of record is the 1992 Edition with the 1992 Addenda for the Palo Verde Nuclear Generating Station (Palo Verde), Units 1, 2, and 3. The authorization of the subsequent edition and addenda of the ASME Code will allow the use of eddy current examinations as an acceptable surface examination technique.

The licensee submitted this request in accordance with the guidance provided in NRC Regulatory Issue Summary (RIS) 2004-16, dated October 19, 2004. In this RIS, the NRC staff stated that licensees who wish to use provisions of subsequent editions and addenda of the ASME Code Section XI for activities, including repair/replacement activities, must receive prior NRC review and approval as required by section 50.55a(g)(4)(iv) of Title 10 of the *Code of Federal Regulations* (10 CFR).

2.0 REGULATORY REQUIREMENTS

Pursuant to 10 CFR 50.55a(g)(4), ASME Code Class 1, 2, and 3 components (including supports) shall meet the requirements, except the design and access provisions and the pre-service examination requirements, set forth in the ASME Code, Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components," to the extent practical within the limitations of design, geometry, and materials of construction of the components. Section 50.55a(g)(4)(ii) of 10 CFR requires that ISI examination of components and system pressure tests conducted during the first 10-year ISI interval and subsequent intervals comply with the requirements in the latest edition and addenda of Section XI of the ASME Code incorporated by reference in 10 CFR 50.55a(b) 12 months prior to the start of the 120-month interval, subject to the limitations and modifications listed therein.

The repair, replacement, and modification of plant components are not explicitly mentioned in 10 CFR 50.55a(g)(4) and associated subparagraphs. However, these activities are specifically mentioned in ASME Code Section XI. The NRC staff considers that these activities are not separate and distinct from, but are included under, inservice examinations. Therefore, the requirements of 10 CFR 50.55a(g)(4)(iv) are applicable to repair/replacement activities.

Section 50.55a(g)(4)(iv) states that inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda of the ASME Code provided that they are incorporated by reference in 10 CFR 50.55a(b), subject to the limitations and modifications listed in 10 CFR 50.55a(b), and subject to Commission approval. Portions of editions or addenda may be used provided that all related requirements of the respective editions or addenda are met. Currently, Section 50.55a(b)(2) incorporates by reference the ASME Code Section XI from the 1970 Edition through the 1976 Winter Addenda, and the 1977 Edition (Division 1) through the 2003 Addenda (Division 1).

### 3.0 REQUEST TO USE A SUBSEQUENT EDITION AND ADDENDA TO ASME CODE SECTION XI FOR REPAIR/REPLACEMENT ACTIVITIES

#### 3.1 Current Code Requirements

The current ASME Section XI Code of record for Palo Verde, Units 1, 2, and 3, is the 1992 Edition with 1992 Addenda. The applicable code requirements in the 1992 Edition with 1992 Addenda are as follows:

##### IWA-4331, "Defect Removal"

(a) After final grinding, the affected surfaces, including surfaces of cavities prepared for welding, shall be examined by the magnetic particle or liquid penetrant method to ensure that the indication has been reduced to an acceptable limit in accordance with IWA-3000.

##### IWA-2220, "Surface Examination"

(a) A surface examination indicates the presence of surface discontinuities. It may be conducted by either a magnetic particle or a liquid penetrant method.

(b) Any linear indication that exceeds the allowable linear surface flaw standards shall be recorded.

##### IWA-2221, "Magnetic Particle Examination"

Magnetic particle examination shall be conducted in accordance with Article 7 of Section V.

##### IWA-2222, "Liquid Penetrant Examination"

Liquid penetrant examination shall be conducted in accordance with Article 6 of Section V.

### 3.2 Proposed Alternative Code Edition and Requirements

The licensee proposes to use the 1998 Edition, no Addenda of the ASME Section XI Code for repair/replacement activities. The applicable code requirements from that code are as follows:

#### IWA-4422.2.1, "Defect Removal without Welding or Brazing"

(a) After removal of defects detected by visual or surface examinations, surface examination of the defect removal area shall be performed.

#### IWA-2220, "Surface Examination"

(a) A surface examination indicates the presence of surface discontinuities. It may be conducted by a magnetic particle, a liquid penetrant, or an eddy current method.

(b) Any linear indication that exceeds the allowable linear surface flaw standards shall be recorded.

#### IWA-2221, "Magnetic Particle Examination"

(a) Magnetic particle examination shall be conducted in accordance with Section V, Article 7.

(b) Magnetic particle examination of coated materials shall be conducted in accordance with Section V, Article 7, Appendix I.

#### IWA-2222, "Liquid Penetrant Examination"

Liquid penetrant examination shall be conducted in accordance with Section V, Article 6.

#### IWA-2223, "Eddy Current Examination"

Eddy current examination for detection of surface flaws shall be conducted in accordance with Appendix IV.

### 4.0 TECHNICAL EVALUATION

The NRC staff evaluated the licensee's request using the criteria contained in 10 CFR 50.55a(g)(4)(iv), which states that inservice examination of components and system pressure tests may meet the requirements set forth in subsequent editions and addenda of the ASME Code provided certain conditions are satisfied.

The first condition is that the proposed edition and addenda is incorporated by reference in 10 CFR 50.55a(b). Currently, Section 50.55a(b)(2) incorporates by reference the ASME Code Section XI from the 1970 Edition through the 1976 Winter Addenda, and the 1977 Edition (Division 1) through the 2003 Addenda (Division 1), which includes the 1998 Edition, no Addenda of the ASME Section XI Code proposed by the licensee.

The second condition is that the limitations and modifications listed in 10 CFR 50.55a(b) are satisfied for the specific use of the proposed subsequent Code edition and addenda. There are no restrictions specified in 10 CFR 50.55a(b) for the portion of the 1998 Edition, no Addenda of the ASME Section XI Code that the licensee proposes to use.

The third condition is that if portions of subsequent Code editions or addenda are used, all related requirements of the respective editions or addenda must be met. The NRC staff is satisfied that the licensee has listed all related requirements in the 1998 Edition, no Addenda of the ASME Section XI Code that are relevant to the stated repair/replacement activities.

Based on the above, the NRC staff finds that the conditions of 10 CFR 50.55a(g)(4)(iv) are satisfied and that the licensee's request to use the 1998 Edition, no Addenda of the ASME Code Section XI for repair/replacement activities is acceptable.

## 5.0 CONCLUSION

The NRC staff concludes that the proposed request is acceptable and authorizes the use of the ASME Code Section XI, 1998 Edition, no Addenda, for the specified repair/replacement activities for the remainder of the current 10-year ISI intervals for Palo Verde, Units 1, 2, and 3. All other requirements of the ASME Code, Section III and XI for which relief has not been specifically requested and approved remain applicable, including third party review by the Authorized Nuclear Inservice Inspector.

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Date: May 9, 2005

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